

REMARKS/ARGUMENTS

In this Amendment, Applicants have amended independent claim 1 to more-particularly claim the structure of Applicants' invention. As now more-particularly claimed, the fluid from a plurality of upper walls, where the plurality of upper walls includes side walls 2, a front wall 3, and a screen pipe 4, and does not include a nose wall 5, is lead to a ceiling wall 7 through a ceiling wall inlet header 8. Additionally, the fluid from the nose wall 5, which nose wall projects into a boiler furnace, is introduced into the auxiliary side walls 6 through outlet connecting ducts 12, and the fluid coming from the nose wall is not introduced into the ceiling wall inlet mixing header 8. Thus, the fluid from the side walls 2, the front wall 3, and the screen pipe 4 is lead to the ceiling wall 7 through the ceiling wall inlet header 8. The fluid from the nose wall 5, which nose wall projects into a boiler furnace, is introduced into the auxiliary side walls 6 through outlet connecting ducts 12, and thus, is not introduced into the ceiling wall inlet mixing header 8.

Applicants respectfully submit that these features of Applicants' invention are clearly disclosed in Applicants' application, as published, at paras. 0027 and 0036 and in Figures 1 and 5. Applicants also respectfully submit that JP2001-324102 does not disclose at least these features of Applicants' invention.

In the present invention, as now more-particularly claimed, through the combination of the feature of the ceiling wall inlet mixing header 8, which has a bent portion 23 halfway in the ceiling wall inlet mixing header 8, and the feature of the high temperature fluid coming from the nose wall not being introduced into the ceiling wall inlet mixing header, it is possible to have good mixing of the fluid in the ceiling wall inlet mixing header and also to reduce a temperature difference generated in the ceiling wall. Applicants respectfully submit that evidence of both of these results of Applicants' claimed structure is provided in Applicants' specification at paras. 0028 and 0036.

The following further explains how this invention can achieve the advantageous effects discussed above and as evidenced in Applicants' application.

As claimed, the ceiling wall inlet mixing header 8 has a bent portion 23 halfway in the ceiling wall inlet mixing header 8. As explained in Applicants' specification at para. 0028, because a bent portion is provided halfway in the ceiling wall inlet mixing header 8, the flow of fluid can be changed so that fluid mixing can be performed satisfactorily.

Applicants note that the Examiner acknowledges in the Office Action that JP2001-324102 does not disclose this feature of Applicants' invention. However, the Examiner argues that changing a straight tube to a bent tube to achieve the same function of the straight tube but only in a more compact structure would be obvious. However, Applicants respectfully submit that the bent portion 23 halfway in the ceiling wall inlet mixing header 8 does not merely achieve the same function of the straight tube in a more compact structure. Rather, as evidenced in Applicants' specification, this bent design provides for changing the direction of the flow of the fluid, which change in the direction of the flow of the fluid provides for improved fluid mixing.

Therefore, Applicants respectfully submit that not only is Applicants' claimed configuration for the bent portion halfway in the ceiling wall inlet mixing header not disclosed by JP2001-324102, but additionally, JP2001-324102 does not teach structure which renders Applicants' claimed structure obvious. Applicants respectfully submit that Applicants' claimed structure is not "a predictable variation" of the structure of JP2001-324102, but rather, is a non-obvious structure that provides additional functionality for the ceiling wall inlet mixing header of Applicants' invention when compared to the Examiner's interpreted structure for the ceiling wall inlet mixing header of JP2001-324102.

Further, Applicants respectfully submit that Fig. 1 of JP2001-324102 merely shows a rectangular block, which the Examiner has interpreted to disclose a "ceiling wall inlet mixing header", arranged between an outlet header 5 and a ceiling wall 27. Applicants respectfully submit that in JP2001-324102, there is no explanation of this rectangular block's function. Thus, because there is no function ascribed to the rectangular block in JP2001-324102, Applicants

respectfully submit that it is improper to argue that Applicants' claimed configuration is obvious in view of this rectangular block based on an argument that Applicants' claimed configuration achieves "the same function" of the rectangular block.

The further distinguishing feature of Applicants' invention of amended claim 1, discussed above and which also serves to enhance the functionality of the ceiling wall inlet mixing header 8, is that the fluid from the nose wall 5 is introduced into the auxiliary side walls 6 through outlet connecting ducts 12, and thus, is not introduced into the ceiling wall inlet mixing header 8. This also reduces a temperature difference generated in the ceiling wall, as does the improved fluid mixing in the ceiling wall inlet mixing header as a result of the bent portion in the ceiling wall inlet mixing header.

In Applicants' invention, as also claimed, the nose wall has a portion projected into a furnace, as shown in Fig. 5. Thus, the nose wall is high in heat absorption at the projected portion and the fluid coming from the nose wall is high in temperature as compared with the fluid from the side walls, the front wall and the screen pipe. Consequently, if the high temperature fluid coming from the nose wall is mixed into the ceiling wall, and thus the ceiling wall inlet mixing header, adverse effects may be caused, as evidenced in para. 0036 of Applicants' specification.

Additionally, in the present invention, there is no need to have the fluid from the nose wall introduced into the ceiling wall inlet mixing header because the high temperature fluid from the nose wall does not need to be reheated.

Accordingly, in the boiler apparatus of the present invention, the high temperature fluid coming from the nose wall, which nose wall has a portion projected into a furnace, is not introduced into the ceiling wall inlet mixing header to avoid losing the temperature difference reduction effect of the ceiling wall inlet mixing header.

In contrast, Applicants respectfully submit that JP2001-324102 does not disclose or suggest Applicants' claimed features of a nose wall, where the nose

wall projects into a boiler furnace. The fluid coming from the nose wall is introduced into the auxiliary side walls through the outlet connecting ducts and the fluid coming from the nose wall is not introduced into the ceiling wall inlet mixing header. Applicants respectfully submit that such a construction, in which a high temperature fluid coming from the nose wall, which nose wall projects into a boiler furnace, is not introduced into the ceiling wall inlet mixing header, as claimed, is not disclosed in JP2001-324102.

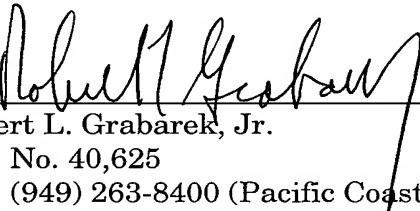
Therefore, for at least the above reasons, Applicants respectfully submit that amended independent claim 1, and claims 4 and 5 which depend therefrom, are allowable over JP2001-324102.

Since the present Office Action is a "Final" Action, Applicants are filing a Request for Continued Examination concurrently with the filing of this Amendment.

Applicants respectfully submit that the application is now in condition for allowance with claims 1, 4, and 5 being allowable. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

As provided for above, this paper includes a Petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees, or credit any overpayment of fees, to Deposit Account No. 05-1323 (Docket No. 101437.57334US).

Respectfully submitted,
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